STATE OF MISSOURI
Bob Holden, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
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November 16, 2004

Mr. Dan Vornberg
Vice President Environmental Affairs
The Doe Run Company
1801 Park 270 Drive
Suite 300
St. Louis, MO 63146

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SUPERFUND DIVISION

RE: Notice of Disapproval

Dear Mr. Vornberg:

The Missouri Department of Natural Resources has reviewed the most recent Doe Run Herculaneum Smelter Transportation and Materials Handling Plan (TMHP), including Doe Run's April 16, 2004, revisions and road dust and soil re-deposition data generated by the U.S. Environmental Protection Agency (USEPA). In light of recent developments with the Joachim Avenue bridge and ongoing lead deposition along haul roads in Herculaneum, the department is disapproving the TMHP pursuant to paragraph 29 of the April 26, 2002, Settlement Agreement between The Doe Run Company, the department, and the Missouri Attorney General. This disapproval is based on the failure of Doe Run to implement the TMHP in a manner that achieves acceptable reductions in haul road dust lead contamination which appears to be contributing to lead redeposition on residential soil near haul roads.

The Settlement Agreement was intended to resolve the September 25, 2001, Order to Abate and Cease and Desist Violations related to lead concentrate deposition on Herculaneum roads and risks to the surrounding community. The Settlement Agreement established as a goal that 80 percent of lead concentrate transported to the Herculaneum smelter was to be by rail by April 26, 2003. Doe Run has been unable to meet that goal, thus requiring Doe Run to submit proposed revisions to the TMHP according to the terms of the Settlement Agreement. Those proposed revisions and implementation of previous TMHPs have not satisfactorily prevented releases of hazardous substances into the community, as demonstrated by road dust and soil re-deposition sampling and analyses, and have not satisfactorily addressed all of our past comments on the TMHP.

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As you may know, the Missouri Department of Transportation recently placed a weight limit on the bridge over Joachim Creek on Joachim Avenue, which has had the effect of restricting both incoming and outgoing concentrate and product truck traffic to the northern haul route on Main Street. The Main Street route was only approved for product truck traffic, not concentrate trucks. During our original deliberation on siting a haul route, we solicited public opinion from Herculaneum residents. We received a clear message from the citizens of Herculaneum that it was unacceptable to burden residents with both incoming and outgoing concentrate trucks and product trucks. The department believes the rate of lead deposition along the Main Street haul route will increase due to the greatly increased truck traffic. We believe that lead deposition on the roads will likely lead to increased lead concentrations in residential soil and interior dust in homes adjacent to the haul road.

The department has reviewed and commented on several versions of the TMHP since it was originally required by the Settlement Agreement. The department has agreed with some provisions proposed and/or implemented by Doe Run to prevent releases of hazardous substances from transportation and material handling processes, including releases from concentrate trucks and from tracking out of smelter facility contamination by departing vehicles. These include, but may not be limited to: street cleaning; the current vehicle wash facility; the proposed concentrate unloading station for direct transfer of concentrate from trucks to rail cars; the current conveyor system for moving concentrate from the unloading station to rail cars; and some of the traffic rerouting measures.

Our analysis of the USEPA's road dust sample analytical data shows many overall downward trends in road dust lead concentrations and loading values, indicating that measures implemented by Doe Run may have achieved some reduction in road dust lead contamination. However, due to the extreme variability of the data, even among consecutive data points, short-term trends vary considerably. The department is aware that there are no promulgated standards for lead in road dust. However, we believe the road dust lead concentrations and loading values remain unacceptably high because residential soil re-deposition sample locations near the haul roads are showing significant increasing trends in lead re-deposition that appear to be at least partially attributable to the proximity of these sample locations to the haul roads. Following are observations made based on our analysis of the road dust concentration and loading and soil re-deposition data, which we believe support our disapproval of the TMHP according to the Settlement Agreement.

1. Ongoing residential soil re-deposition sample analytical data is available from seven residential soil sampling locations along the haul roads. All of these sample locations along the haul roads are showing upward trends in soil lead re-deposition. The department believes the proximity of these sample locations to the haul roads indicates that lead contaminated road dust is a source contributing to soil lead re-deposition. We believe the evaluations of the USEPA's road dust sample analytical data enumerated below support our belief that lead-bearing materials from the smelter facility continue to be tracked out by departing vehicles and releases from concentrate trucks may continue to

contribute to recontamination of residential soil along the haul roads. Recontamination of residential soil may present a direct exposure risk to remaining residents and may contribute to contamination of dust in the interiors of homes presenting additional exposure risk.

2. Road dust lead concentrations and loading values are higher within and close to the plant, indicating there is always a source of lead in road dust available to be tracked away from the facility onto the public roads in Herculaneum, where it may, in turn, be available to contaminate adjacent residential soil and home interiors. Average lead concentrations and loading values in incoming and outgoing haul road traffic lanes generally decrease with increasing distance from the plant. However, they remain at unacceptably high levels, even at the sample locations furthest from the smelter, when observed in comparison with lead concentrations and loading values from samples collected from non-haul roads in Herculaneum. The USEPA established a clearance criterion of 0.77 mg/ft^2 lead loading for determining whether all departing vehicles would be required to pass through the vehicle wash. Doe Run has never achieved this criterion at the East Road Confirmation sample location. This lead loading value has rarely been achieved at any of the road dust sample locations in Herculaneum, including those on the haul roads furthest from the facility.

3. Average road dust lead concentrations and loading values are higher in the "B" samples collected from the outgoing lanes than the "A" samples collected from the corresponding incoming lanes at all of the haul road sample locations. We believe this indicates that lead contamination from the smelter facility is being tracked onto the public roads of Herculaneum. The sample location at the exit of the vehicle wash has had an average lead concentration of 38,644 mg lead/kg and an average loading value of 3.37 mg lead/ft^2. These values are lower than those for the East Road Confirmation sample location, but remain higher than the other outgoing lane haul road sample locations in Herculaneum, again indicating a significant potential for track out of contamination from the facility.

4. Average lead concentrations and loading values in the "A" or incoming lanes of the haul roads are generally elevated above non-haul road lead concentrations and loading values. This would appear to indicate releases from concentrate trucks, and/or redistribution of existing lead contamination.

5. The department predicts that the weight restrictions placed on the Joachim Avenue bridge forcing all concentrate trucks to use the Main Street haul road, along with all other incoming and outgoing truck traffic will increase road dust lead concentrations and loading on Main Street. The current restrictions on the bridge were placed in early to mid-September, so there is limited sample analytical data upon which to draw conclusions. However, the averages of data from the Station/Official sample location along the former primary haul route since September 2004 indicate little change in road dust lead concentrations, but a significant drop in loading values. Conversely, at the

Main and Curved sample location along the Main Street haul road, there has been some increase in average lead loading over the previous several months, associated with a decrease in average lead concentration. Additional data will be needed to evaluate trends in road dust lead concentrations and loading values related to the change in traffic patterns associated with the bridge restrictions. The department will evaluate future data closely to identify any such trends.

As you are aware, the department in past correspondence, meetings, and other communications has provided Doe Run significant input on measures we believe must be implemented in the proper manner for the TMHP to have any hope of successfully achieving its objectives. In the spirit of suggesting solutions and creating a plan the department can fully support, we again offer the following:

1. Enter into a long-term contract for rail transport of lead concentrate to the Herculaneum smelter. The department understands that Doe Run has made efforts to accomplish this goal according to the terms of the Settlement Agreement and has reportedly been unable to obtain a contract for rail transportation of lead concentrate to the Herculaneum smelter. We would ask that you continue this effort and let us know if there is anything the department can do to assist.

2. Construct a new bridge over Joachim Creek and road carrying concentrate trucks and other smelter traffic over a route that completely avoids residential areas of Herculaneum. The department understands that public funding has been sought for construction of a new bridge and road, and that Doe Run has supported this effort. Nevertheless, if public funding of a new bridge and road providing a haul route to the smelter that avoids residential areas does come to fruition, Doe Run should consider funding the project.

3. Complete purchase by Doe Run of all residential properties within Herculaneum adjacent to the haul roads to provide a buffer between haul roads and residential properties.

4. Provide a comprehensive TMHP that addresses all Doe Run facilities' transportation and material handling, including the Herculaneum smelter, Doe Run's mine/mill complexes, and Doe Run's contract transporters.

5. Provide proven, leak-proof, fully contained trailers for concentrate transportation.

6. Establish a fund to investigate and clean up contaminated areas along public roads used as concentrate haul routes.

7. Provide concentrate storage in fully-contained, negative pressure storage buildings at the mills and smelter.

8. Periodically repave the haul roads in the city of Herculaneum on a regular on-going basis.

9. Implement additional provisions to prevent releases of lead-bearing materials within the Herculaneum smelter facility that may be available for track-out by departing vehicles.

Pursuant to paragraph 31 of the Settlement Agreement, Doe Run must correct the deficiencies in the TMHP outlined in this letter according to the guidance provided in this and past correspondence regarding the TMHP to resolve problems with lead deposition from transportation on streets in Herculaneum, and resubmit the TMHP by December 17, 2004.

If you have questions regarding this correspondence, please contact me at (573) 751-3176. We look forward to discussing this issue with you further.

Sincerely,

HAZARDOUS WASTE PROGRAM

Edward Galbraith
Director

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c: Mr. Greg Bieber, Herculaneum Community Advisory Group
Mr. Joe Bindbeutel, Missouri Attorney General's Office
Mr. Dru Buntin, Missouri Department of Natural Resources
Mr. John Chamis, Mayor, City of Herculaneum
Mr. Scott Clardy, Missouri Department of Health and Senior Services
Mr. Gene Gunn, U.S. Environmental Protection Agency
Mr. Aaron Miller, The Doe Run Company
Mr. Bruce Morrison, U.S. Environmental Protection Agency
Mr. Tim Myers, Herculaneum Community Advisory Group
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